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10/035,377	12/28/2001	Albert H. Chang	P01-3780	2070

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EXAMINER	
HAMZA, FARUK	
ART UNIT	**PAPER NUMBER**
2155	

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,377	CHANG, ALBERT H.	
	Examiner	Art Unit	
	Faruk Hamza	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. This action is responsive to the amendment filed on December 05, 2005. Claims 1,7,9 and 14 have been amended. Claims 1-19 are now pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 9 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the network server" in lines 4. There is insufficient antecedent basis for this limitation in the claim.

As to claim 9, it is unclear to examiner what applicant meant by "said server comprising an input and output server"

Claim 14 recites the limitation "the specific requesting client component" in lines 12. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Pierre-Louis et al. (U.S. Patent Number 6,421,777) hereinafter referred as Pierre-Louis.

Pierre-Louis teaches the invention as claimed including a method and apparatus for booting a client data processing system from a set of boot images stored on a server data processing system (See abstract).

As to claim 1, Pierre-Louis teaches a method of controlling a network boot for a plurality of client devices linked to a data communications network including a linked server and a network storage device, comprising:

receiving at the network server a boot request from one of the client devices over the network (Column 5,lines 46-58, Pierre-Louis discloses receiving boot request over the network);

responsive to the received boot request, determining a target boot volume from a plurality of client image copies stored at the network storage device, each of the client image copies including a boot image particular to one of the client devices linked to the network (Column 5,lines 9-67, Pierre-Louis discloses responding to the boot request with appropriate boot image); and

providing communicative access to the requesting one of the client devices to the target boot volume, whereby the client is operable to remotely boot over the network from the target boot volume stored at said network storage device (Column 5,lines 9-67, Pierre-Louis discloses communicating client with target boot volume).

As to claim 2, Pierre-Louis teaches the method of claim 1, further including creating a snapshot of a base boot image and creating the client image copies by copying the snapshot for each of the client devices linked to the network (Column 7, lines 21-65).

As to claim 3, Pierre-Louis teaches the method of claim 2, wherein the base boot image includes an image of operating system and application files to

be shared among the client devices (Column 3, lines 3-6).

As to claim 4, Pierre-Louis teaches the method of claim 2, wherein each of the client image copies is allocated to a particular one of the client devices and includes common operating system (OS) and application blocks comprising a reverse snapshot of the base boot image and client-specific blocks unique to the particular one of the client devices (Column 7, lines 21-65).

As to claim 5, Pierre-Louis teaches the method of claim 4, further including receiving an update from a client device over the network and modifying the client-specific blocks based on the received update in the client image copy allocated to the updating client device (Column 5, lines 26-37).

As to claim 6, Pierre-Louis teaches the method of claim 5, wherein the received update comprises a write that is processed as an allocate-on-write (Column 5, lines 26-37).

As to claim 7, Pierre-Louis teaches the method of claim 2, further including storing the snapshot and adding a new one of the client devices to the network including repeating, with the previously stored snapshot, the creating of the client image copies for the new client device (Column 12, lines 18-28; Column 7, lines

21-65).

As to claim 8, Pierre-Louis teaches the method of claim 1, wherein the network is an Internet protocol (IP) based network (Column 3, lines 8-21).

As to claim 9, Pierre-Louis teaches an external storage controller for managing network booting within a storage communication network including a linked server and a network storage device, comprising:

a snapshot manager adapted for creating a snapshot of a base boot image, for storing the base boot image in said network storage device, for creating and storing in the network storage device a reverse snapshot based on the snapshot for client devices in the network, and for allocating one of the reverse snapshots to each of the client devices as client-specific image copies (Column 7, lines 21-65; Column 11, lines 9-40, Pierre-Louis discloses initial boot image and client specific multiple boot images); and

said server comprising an input and output server to receive a boot request from a client device broadcast on the network and responding to the boot request by providing remote access to a client-specific image copy stored in the network storage device allocated to the requesting client device to effect a boot operation by the client device without downloading said client-specific image copy (Column 5, lines 20-67, Pierre-Louis discloses server receiving boot request

and responding with client specific boot images).

As to claim 10, Pierre-Louis teaches the controller of claim 9, further including means for determining based on the boot request the client-specific image copy to provide the requesting client device access (Column 11, lines 44-Column 12, lines 17).

As to claim 11, Pierre-Louis teaches the controller of claim 9, wherein the base boot image includes an operating system and application files image and wherein each of the client specific reverse snapshots includes the operating system and application files image and a client-specific information portion (Column 3, lines 3-6; Column 7, lines 21-65).

As to claim 12, Pierre-Louis teaches the controller of claim 11, wherein the client-specific information portion is alterable during operation of the controller (Column 5, lines 27-37).

As to claim 13, Pierre-Louis teaches the controller of claim 12, wherein the snapshot manager is adapted to apply writes received from a particular client device by the input and output server as writes to the client-specific information portion of a client-specific image copy allocated to the particular client device

(Column 5, lines 27-37).

As to claim 14, Pierre-Louis teaches a computer system for deploying multiple client devices communicatively linked to a network including a linked server and a network storage component, comprising:

a plurality of client components that send boot requests over the network (Fig.1; Column 2, lines 62-Column 3, lines 21; Column 5,lines 46-58, Pierre-Louis discloses plurality of clients sending boot request over the network);

a snapshot component that creates a base boot image comprising an operating system and application files image and client image copies from the base boot image for each of the client components (Column 7, lines 21-65; Column 3, lines 3-6, Pierre-Louis discloses initial boot image comprising OS and application files);

said network storage component to store the client image copies (Fig.1, Pierre-Louis discloses storage for storing client image); and

said server including a communication component that receives the boot requests from the client components and provides the client components with remote access to the client image copies on the network storage component, including access to effect a remote boot from a boot image copy allocated to the specific requesting client component (Column 5, lines 20-67, Pierre-Louis discloses receiving boot request and responding with client specific image).

As to claim 15, Pierre-Louis teaches the system of claim 14, wherein the network is an Internet protocol (IP) based network and the client components include initiators to encapsulate the boot requests in TCP/IP (Column 3, lines 8-21).

As to claim 16, Pierre-Louis teaches the system of claim 14, wherein the client components perform equivalent functions based on the operating system and application files image (Column 7, lines 21-65).

As to claim 17, Pierre-Louis teaches the system of claim 14, wherein the communication component further determines an allocated one of the client image copies for each of the client components that broadcast the boot requests and provides remote access to the client components only to the allocated ones determined associated to each of the client components (Column 7, lines 21-65).

As to claim 18, Pierre-Louis teaches the system of claim 14, wherein the client components further transmit information update messages on the network and the snapshot component further independently modifies the client image copies corresponding to the transmitting ones of the client components, whereby each modified one of the client image copies differs from other ones of the client image copies (Column 7, lines 21-65; Column 8, lines 38-46).

As to claim 19, Pierre-Louis teaches the system of claim 18, wherein the client image copies include a storage area for storing information from the base boot image and a storage area for storing information from the information update messages (Column 7, lines 21-65).

Response to Arguments

3. Applicant's arguments have been fully considered but they are not persuasive.

In the remarks applicant argues in substance that; A) Pierre-Louis does not teach claimed limitations of claims 1, 9 and 14.

In response to A) Pierre-Louis teaches receiving boot request at network server from client device (Column 5, lines 46-67). Pierre-Louis teaches responsive to the received boot request (Column 5, lines 16-67) and Pierre-Louis also teaches clients are operable to remotely boot over the network (Column 5, lines 16-67). Therefore the teaching of Pierre-Louis meets the claimed limitation of claims 1, 9 and 14.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faruk Hamza whose telephone number is 571-272-7969. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached at 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll –free).

Faruk Hamza

Patent Examiner

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SUPERVISORY PATENT EXAMINER